

WG112 Zero Power Consumption Sensor

◆ Features

- No need the power supply when it works.
- Bipolar excitation working mode, the sensor outputs a pair of positive and negative electrical pulse signal when the magnetic field polarity changes for a circle.
- Only when the external magnetic field polarity changes, and magnetic strength reaches the excitation threshold, the sensor will outputs a pulse signal, so the vibration won't happen. The operation is stable and reliable.
- The signal amplitude has nothing to do with the magnetic field changing speed, and it can work at the speed near to zero.
- The signal processing is simple, and it can be directly connected with transistors, comparators, A/D converter, etc.
- The output signal can be remote transmitted by the signal lines, so it's suitable for LAN management.
- No mechanic contact, no spark, is a kind of intrinsic safety devices.
- Wide operating temperature range, strong environmental adaptability.

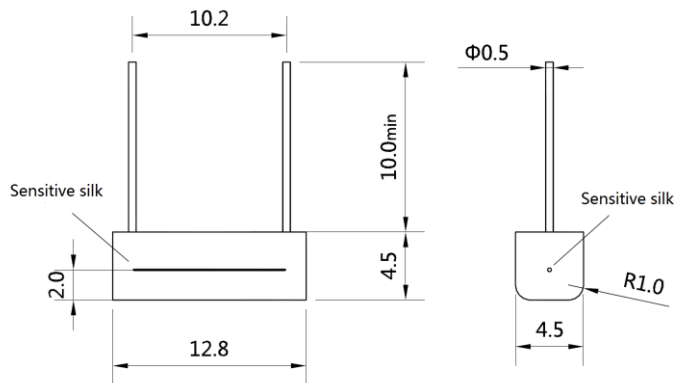
◆ Performance Index

Name		Symbol	Value	Unit
Excitation strength	Min.	B	3	mT
	Typ.		5~6	
	Max.		12	
Pulse signal amplitude		VO	≥1.5	V
Pulse width (in the location of 1V)		τ	10~30	μS
DC internal resistance		Ro	600~800	Ω
Operating frequency	Min.	f	unlimited	kHz
	Max.		10	
Operating Temp.		T	-40~+125	°C
Outline Dimension and Typical installation location		-	See the figure	-
Sensitive silk location (distance to the bottom surface of sensor)		D	2.0	mm
Package		-	Plastic shell, Epoxy potting	-
External lead		-	Tinned copper hard leads	-

◆ Application

- **Rotation count:** Smart water meter, heat meter, gas meter, fuel gauge, flow meter, odometer etc.
- **Position detection:** oil depot level detection, tipping bucket rain gauge, unattended hydrometeorology monitoring.
- **Electronic switch:** Explosion-proof switch, ignition switch etc.

◆ Sensor dimension and sensitive silk location



- In the water meter application, the magnetic ring of $\phi 9.5 \times \phi 6.0 \times 3.5$ mm can be used, it is magnetized in axial direction, a pair of poles. The surface magnetic strength is more than 90 mT, the installation distance from the surface of ring to the bottom of the sensor is about 2.5mm.
- Note: the sensor has certain requirements to the magnetic strength, too strong or too weak magnetic field may affect its operation.
- If using other material and shape of the magnet, it needs to measure its magnetic field, and adjust the installation distance.

